

Policy pointers

Any new legal instrument under the Law of the Sea on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction must safeguard, clarify and strengthen existing standards on capacity building and technology transfer.

Establishing guiding principles under a proposed 'Clearing House Mechanism' for multilateral facilitation and brokering can encourage action to meet specific LDC needs, as well as more integrated approaches to scientific cooperation, information sharing, capacity building and technology transfer.

A benefit-sharing mechanism can help cultivate a common understanding of how LDCs' scientific and technological needs can be met through more targeted multi-stakeholder partnerships.

The new instrument must establish an enabling governing framework for addressing power imbalances in the context of scientific cooperation, information sharing, capacity building and technology transfer. International human rights and biodiversity standards can provide valuable guidance.

Seize the moment: towards fairer capacity building and marine technology transfer

A new international legally binding instrument, developed under the UN Convention on the Law of the Sea (UNCLOS), will focus on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction. International experience has highlighted that an integrated and well-resourced multilateral approach is needed to promote needs-based capacity building and technological support. A mutually supportive interpretation of international law instruments by UN member states can help those most dependent on technology transfer and capacity building — in particular the Least Developed Countries (LDCs) — to safeguard and fully implement present standards. This briefing illustrates how different areas of international law provide guidance on how to fulfil the duty to cooperate on marine science and technology in a way that meets LDCs' needs and priorities.

Capacity building and marine technology transfer play a key role in enabling developing countries to meaningfully participate in the international fora dealing with ocean affairs, to harness the benefits of conservation and sustainable use of ocean resources and to meet their international obligations to protect the marine environment. However, the implementation of international obligations relating to capacity building and marine technology transfer requires an enabling policy environment and guiding principles for collective action. This issue is being negotiated as part of a new international legally binding instrument on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction under the UN Convention on the Law of the Sea (UNCLOS) ('the new instrument').

Shaping the new instrument

While negotiations are ongoing, there is growing agreement on the overarching objectives of

capacity building and technology transfer under the new instrument. These include supporting states — particularly developing countries — to fulfil their rights and obligations in relation to the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction. The new instrument is expected to recognise the special requirements of LDCs in this regard, in line with UNCLOS and Sustainable Development Goal (SDG) 14a. The new instrument will need to elaborate on particular forms of cooperation and assistance in relation to marine genetic resources, area-based management tools and environmental impact assessments.

However, views diverge on terms and conditions. Some states advocate for capacity building and technology transfer on 'fair and reasonable terms'; others are in favor of the voluntary distribution of marine technology based on 'mutually agreed terms and conditions'. It has also been argued that

UNCLOS seeks to prevent less technologically advanced countries being left behind

capacity building should be a prerequisite for access to marine genetic resources.

Against this background, this briefing analyses the interplay between different obligations under

international biodiversity and human rights law, as well as the Law of the Sea. A mutually supportive interpretation of all relevant international obligations can help those states that

are most dependent on technology transfer and capacity building, including the LDCs, to ensure that the new instrument does not undermine existing standards. We also seek to shed light on how international law can be used to establish multilateral facilitation and brokering arrangements, and how these can make cooperation in the fields of marine science and technology a workable reality. Successful cooperation will promote participatory processes for identifying needs and how to meet them, in addition to equitable benefit distribution across regions, meeting capacity building and technological support obligations in an integrated manner.

The duty to cooperate

i. Under the Law of the Sea. UNCLOS (Part XIV) provides the framework for international cooperation in the fields of marine science and technology transfer. It includes an obligation for states to cooperate — either directly or through competent international organisations — in promoting the development and transfer of marine science and technology on fair and reasonable terms and conditions, so that technologically advanced and less advanced countries will be equally able to exercise their rights and meet their obligations under international law. UNCLOS provides concrete obligations relating to: the acquisition, evaluation and dissemination of marine technological knowledge and the facilitation of access to relevant information; the development of appropriate marine technology and the infrastructure necessary for its transfer; and the enhancement of human resources within developing countries.

However, these obligations are expressed in general terms that leave out details of how international cooperation in the fields of marine science and technology transfer is to work in practice. For example, the nature and duration of cooperation, treatment of intellectual property, funding and the allocation of costs is open to interpretation. For this reason, some commentators have suggested that this duty to cooperate is too broad to enforce.¹ However, if these obligations are interpreted in good faith, in light of the UNCLOS object and purpose, countries must enter into

negotiations to detail tangible implementation arrangements that can be monitored and enforced.² This interpretation can also be applied to UNCLOS provisions on capacity building and technology transfer for the purposes of protecting and preserving the marine environment (Articles 202 and 266). The latter reiterates the obligation to provide scientific and technical assistance to developing countries, including through the supply of equipment and enhancing local capacity to manufacture it. The provisions also explicitly stipulate that scientific and technological capacity building for the purposes of exploring, exploiting, conserving and managing marine resources, and for protecting and preserving the marine environment, should strive to accelerate developing countries' socioeconomic development. These can be read as requiring developed countries to directly transfer publicly-held environmentally sound technologies, to finance the licensing of privately-held technologies or, at the very least, to remove legal barriers to these ends.³

In accordance with SDG 14a and the 2017 UN Ocean Conference Call for Action (paragraph 12), these UNCLOS provisions should be read alongside the Intergovernmental Oceanographic Commission (IOC)'s Criteria and Guidelines on the Transfer of Marine Technology ('the IOC Criteria and Guidelines'). These promote the development of special financial and scientific schemes to facilitate marine technology transfer at different levels; the transfer of marine technology free of charge or at a reduced rate to the recipient country; the consideration of the needs and interests of developing and land-locked countries; and the transfer of environmentally sound technologies.

ii. Under international biodiversity law. The legal framework established under UNCLOS is complementary to the Convention on Biological Diversity (CBD). CBD Parties are required to engage in technical and scientific cooperation in the field of conservation and sustainable use of biodiversity (Article 18). This cooperation, which ought to prioritise the involvement of developing countries, must give special attention to strengthening national capabilities through human resources development and institution building. To this end, CBD Parties must:

- Establish and maintain programmes for scientific and technical education and training on the identification, conservation and sustainable use of biodiversity, taking into account the needs of developing countries (Article 12)
- Promote scientific cooperation towards developing technologies, including indigenous and traditional technologies, that contribute to the CBD objectives (Article 18).

The Convention explicitly cautions that the technologies transferred by the Parties must be environmentally sound (Article 16). Importantly, it also requires Parties to take full account of the specific situation of LDCs in terms of technology transfer (Article 20).

CBD provisions on scientific research and technology transfer — while similar in approach to UNCLOS — can be read in conjunction with obligations concerning protecting customary sustainable use, supporting local efforts to restore ecosystems, and respectfully promoting traditional and indigenous knowledge (Article 17). This helps to address equity issues — namely equitably sharing the benefits arising from marine ecosystem stewardship. From a broader perspective, CBD is more explicit than UNCLOS in linking scientific and technological capacity building with the identification, conservation and sustainable use of biodiversity. Decisions adopted under the CBD provide guidance on interpreting the Convention (demonstrating progress in the Parties' understanding of the provisions), as well as generally accepted standards for specifying UNCLOS obligations. When developed, the new instrument must not only reiterate existing duties relating to capacity building and technology transfer under UNCLOS, but should also incorporate the elements of international biodiversity law that are not adequately reflected in the Law of the Sea.

Multilateral facilitation and brokering approaches

Despite complementary elements within different international law instruments, lack of coordination between governments, research institutions, private partners and regional organisations remains a challenge to marine technology transfer. The open-ended nature of the relevant international obligations has resulted in ad hoc implementation. This makes it difficult to keep tabs on the progress of effectively transferred technology, let alone ensure that disparate efforts contribute to a coherent, regionally balanced and needs-based approach.

For these reasons, institutionalised multilateral approaches are urgently needed to ensure more systematic virtuous cycles between information sharing, capacity building, scientific cooperation and technology transfer.⁴ The proposal to create a 'Clearing House Mechanism' has emerged in negotiations on the new instrument; this could provide an opportunity for multilateral facilitation and the brokering of capacity building and technology transfer, in addition to information sharing and scientific cooperation. The IOC Criteria and Guidelines already suggest

establishing a Clearing House Mechanism (by which an independent third party facilitates an exchange) to give states direct and rapid access to relevant information and practical expertise in marine technology transfer (paragraph C(1)(a)). The new instrument must build on the existing experience of Clearing House Mechanisms in needs-based and integrated multilateral approaches to capacity building and technology transfer (see Box 1). Examining these examples will help determine which elements could be replicated in, or tailored to, the new instrument.

Multi-stakeholder partnerships

Beyond the issue of reliance on subsequent detailed arrangements, the inter-state nature of obligations on marine technology transfer presents considerable challenges to its practical implementation. Marine technology research and development are often undertaken by private companies using their own resources. As a result, technologically advanced countries tend to assume a passive role in negotiations on technology transfer, because they do not have direct access to the privately-held technologies. At the same time, the private sector may not be interested in engaging directly at the multilateral level because of the weak protection assigned to private interests under UNCLOS. International obligations could bolster technologically advanced countries' duty to regulate the activities of the private sector by more clearly linking access to resources with adherence to capacity building and technology transfer obligations. In addition, the new instrument could support multi-stakeholder partnerships,⁵ as highlighted in the IOC Criteria

Box 1. Examples of multilateral facilitation and brokering approaches

- 1. International Seabed Authority (ISA)** guidance seeks to ensure that contractors provide training and capacity building activities that benefit the trainee, the nominating state and ISA members (especially developing countries).¹² Accordingly, training programmes must be based on best practice and address capacity development needs in the participants' home nation; transparent criteria helps match suitable candidates to training opportunities. The ISA regularly reviews the equitable and geographic take-up of training opportunities.
- 2. International Maritime Organization (IMO)** energy efficiency regulations mandate an Expert Group to identify developing countries' technology needs, develop an inventory of energy efficient technologies and draft a model agreement that spells out intellectual property rights.¹³
- 3. The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)** is developing a 'Global Information System'¹⁴ — a web-based entry point to information and knowledge designed to strengthen capacity to conserve, manage and use plant genetic resources for food and agriculture. It will promote scientific information sharing, by facilitating institutional linkages and interoperability among existing information systems and creating a monitoring and evaluation mechanism. It also aims at enhancing collaboration and providing capacity development and technology transfer.

and Guidelines (paragraph B(d)), to address obstacles that hinder participation by the private sector in the implementation of relevant international obligations.

The UN General Assembly has called for innovative approaches to pragmatically address intellectual property constraints to technology transfer, including public-private partnerships on collaborative intellectual property systems and licensing (for example open source and general public licenses).⁶ Similarly, the CBD calls upon Parties to promote the establishment of joint ventures and research programmes to develop technologies that contribute to the objectives of the Convention (Article 18). In addition, partnerships constitute a key component of the Technology Facilitation Mechanism launched under the Addis Ababa Action Agenda, which has emerged as one of the first major UN initiatives to support the realisation of the SDGs. These kind of approaches enable countries and stakeholders to experiment with, keep track of and learn from collaborations with the private sector in pursuing better implementation of international law, and even engage in efforts that go above what international law requires. Establishing cooperation and inclusive multi-stakeholder partnerships should be an explicit objective of the Clearing House Mechanism. This would also serve to avoid partnerships being seen as an alternative to the regulation of private development of technologies or being undertaken in an ad hoc fashion, rather than as part of an institutionalised multilateral approach.

Fair and equitable benefit sharing, as developed under international biodiversity law in relation to the ecosystem approach, provides a useful basis for fleshing out the concept of partnerships for sustainable development for the purposes of marine technology transfer.⁷ The idea of equity and fairness is based on concerted, iterative dialogue that cultivates a common understanding about how benefits are identified and apportioned. Such an understanding is an essential precondition for partnership between actors with varying levels of power. This dialogue can be facilitated by the proactive and institutionalised multilateral approaches to technology transfer as discussed above.⁸

Notes

¹ Boczek, BA (1982) The Transfer of Marine Technology to Developing Nations in International Law. University of Hawaii. / ² Pinto (1986) The Duty of Co-operation and the United Nations Convention on the Law of the Sea. In: Bos, A & Siblescu, H (eds.) Realism in Law-Making: Essays on International Law in Honour of Willem Riphagen. Nijhoff. 145. / ³ Verhoosel, G (1998) Beyond the Unsustainable Rhetoric of Sustainable Development: Transferring Environmentally Sound Technologies. 11:1 Georgetown Environmental Law Review 49. / ⁴ Morgera, E (2016a) Study on Experiences Gained with the Development and Implementation of the Nagoya Protocol and Other Multilateral Mechanisms and the Potential Relevance of Ongoing Work Undertaken by Other Processes, Including Case Studies. UNEP/CBD/ABS/A10/EM/2016/1/2. / ⁵ Morgera & Kulovesi (2013) Public-private Partnerships for Wide and Equitable Access to Climate Technologies. In: Brown, AEL (ed.) Environmental Technologies, Intellectual Property and Climate Change: Accessing, Obtaining and Protecting. Elgar. 128. / ⁶ UN Doc A/67/348, 31 August 2012. / ⁷ Morgera, E & Ntona, M (2018) Linking Small-scale Fisheries to International Obligations on Marine Technology Transfer. 93 Marine Policy 295. / ⁸ Morgera, E (2016b) The Need for an International Legal Concept of Fair and Equitable Benefit-sharing. 27:2 European Journal of International Law 353. / ⁹ Universal Declaration on Human Rights, Article 27(1); International Covenant on Economic, Social and Cultural Rights, Article 15. / ¹⁰ UNGA, Report of the Special Rapporteur in the field of cultural rights: the right to enjoy the benefits of scientific progress and its applications (UN Doc A/HRC/20/26, 14 May 2012). / ¹¹ Morgera, E (2015) Fair and Equitable Benefit-sharing at the Crossroads of the Human Right to Science and International Biodiversity Law. 4 Laws 803. / ¹² ISA Doc ISBA/19/LTC/14, 12 July 2013, para 6. / ¹³ IMO-MEPC, Resolution MEPC.229(65), 17 May 2013; IMO-MEPC Doc MEPC.1/Circ.861, 4 May 2016; IMO-MEPC Doc MEPC 70/5/8, 11 November 2016. / ¹⁴ FAO, ITPGRFA Global Information System. www.fao.org/plant-treaty/areas-of-work/global-information-system/en/

International human rights law

References in UNCLOS, the CBD and the IOC Criteria and Guidelines to benefits, fairness and equity resonate with the legally binding international human right to science.⁹ This right implies an obligation for industrialised countries to meet their international legal obligations by providing direct aid and by developing international collaborative models of research and development for the benefit of developing countries. Benefit sharing is an element of the right to science that has been specifically discussed in relation to technology transfer.¹⁰

A combined interpretation of benefit sharing under international biodiversity and human rights law reinforces the idea that beneficiaries must be actively involved in identifying (i) the types of capacities/technologies to be shared and (ii) the capacity building and technology transfer methods necessary to ensure local relevance. Participatory processes can build fair and equitable partnerships between actors that may have different worldviews on the nature of science and its benefits.

Applying the right to science also serves to address power dynamics that are affected by science and technology, but not explicitly addressed under international biodiversity law or the Law of the Sea (such as dependency on external, ready-made solutions that may not fit particular circumstances, or undue influence by donor countries). Accordingly, participatory processes to build fair and equitable partnerships must ensure that information sharing, capacity building and marine technology transfer both prioritise the needs of LDCs and factor in their inclusion in scientific research.¹¹

Elisa Morgera and Mara Ntona

Elisa Morgera is professor of global environmental law and director of the Strathclyde Centre for Environmental Law and Governance (SCELG) at the University of Strathclyde Law School, Glasgow, UK. Mara Ntona is a PhD Fellow at SCELG.

This policy briefing paper is based on research carried out under the project "BENELEX: Benefit-sharing for an equitable transition to the green economy - the role of law" funded through a European Research Council Starting Grant. Grant Number: 335592.



Knowledge Products

The International Institute for Environment and Development (IIED) promotes sustainable development, linking local priorities to global challenges. We support some of the world's most vulnerable people to strengthen their voice in decision making.

The Strathclyde Centre for Environment Law and Governance, based at the University of Strathclyde Law School in Glasgow, Scotland, carries out globally impactful research, in a wide range of interconnected areas and across scales. The Centre aims to identify and shape emerging areas of legal research in environmental governance with a strong development focus, including through collaborations with global practitioners.

Contact

Essam Mohammed
eymohammed@iied.org

80–86 Gray's Inn Road
London, WC1X 8NH
United Kingdom

Tel: +44 (0)20 3463 7399
www.iied.org

IIED welcomes feedback
via: @IIED and
www.facebook.com/theiied

ISBN 978-1-78431-621-1

This briefing has been produced with the generous support of Sida (Sweden).

